National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

Japanese rendezvous

STS-72 captures the Japanese Space Flyer Unit and deploys and retrieves the OAST Flyer. Photos on Page 3.

Under construction

More JSC roads will be repaved in the coming months creating detours. Story on Page 4.

Space News Roundup

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Station exterior finished, ready for stress tests

By Doug Ward

With a final weld on the module that will house astronauts aboard the International Space Station, more than 80,000 pounds of flight hardware have been manufactured and the exterior structures of the U.S. components are now complete.

"Our manufacturing is proceeding on schedule," said Wil Trafton, acting associate administrator for space flight. "This is what two years of stable funding and hard work will get you. Node 1 will be launched in December 1997 and we are right on track with our other modules. We'll be ready for the first U.S. launch."

McDonnell Douglas technicians are installing secondary structural subassemblies in both Node 1 and Node 2. This equipment includes braces to hold floors, equipment racks and parts of various station utility systems, life support, power, communication and other elements.

Boeing completed machining on Nodes 1 and 2 last year. The nodes also have all of their hatches and common berthing mechanisms in place. Node 2 (which serves as both the structural test article and a flight article) is almost ready to begin pressure and leak testing. To that end, technicians have attached approximately 900 strain gauges to measure stresses during a series of tests that begin later this month. Node 2 is scheduled for launch in 1999.

Node 1, which will be the first U.S.-manufactured module to fly, also has been welded and machined. It will undergo pressure tests after Node 2. In June, Node 1 will begin the process of final assembly and checkout. It will be launched in November 1997.

The U.S. lab module currently is being machined in a device called a horizontal boring mill. Technicians will begin installing mechanical systems in early February. The lab then will undergo its own pressure tests and be painted. The laboratory module will come back to a clean room for checkout before being shipped for its November 1998 launch.

The U.S. habitat module, where the astronauts will eat and sleep, will follow the lab module into the horizontal boring mill for machining, then

Please see **STATION**, Page 4

IN REMEMBRANCE—Above: JSC Director George Abbey lays seven roses at the base of the flag pole in front of Bldg. 1 as astronaut John Young looks on. JSC employees gathered to remember the *Challenger* crew lost during ascent 10 years ago. Seven bells chimed over the emergency warning system and traffic stopped in honor of the seven astronauts of STS-51L. Left: NASA T-38s—led by astronaut Bob Cabana—fly over in the missing man formation during the ceremony. Later in the afternoon, Abbey, Young and the *Challenger* crew's families planted an oak tree for each member lost in a grassy knoll near Bldg. 110.

JSC Photos by Mark Sowa and Robert Markowitz

Station gets crew, Phase 1 flights grow

The first two crew members assigned to the International Space Station were announced this week as U.S. and Russia extended shuttle/Mir flights into 1998.

American Bill Shepherd and Russian Sergei Krikalev will be on the first team of crew members to occupy the International Space Station. A third crew member, who will live and work with Shepherd and Krikalev on the space station beginning in May 1998, will be named later. All will be launched to the station aboard a Soyuz rocket from the Baikonur launch site in Kazakhstan.

Shepherd

The selection of the two crew members and the additional flights to Mir were announced Tuesday by Vice President Al Gore and Russian Prime Minister Victor Chernomyrdin at the conclusion of their two-day meeting.

Expanding on the success of the shuttle/Mir program, NASA and the Russian Space Agency have agreed in principle to extend shuttle/Mir activities into 1998.

"The shuttle/Mir program is already paying back benefits," NASA Administrator Daniel S. Goldin said. "We are laying the foundation for construction of the International Space Station with these docking flights. Mir is proving to be an ideal test site for vital engineering research and expanding our knowledge of the effects of long-duration weightlessness."

Krikalev

NASA will add two missions to Mir, bringing the total number of planned shuttle-to-Mir docking missions to nine, while Russia will meet its commitment to deliver on schedule key elements used in the early assembly of the station.

STS-90, which had not been designated as a Mir mission, will now dock with the Russian station. The ninth mission, a new flight to Mir, has been added to the shuttle manifest. Both will occur in 1998.

Goldin said the two docking flights completed thus far have proven to be enormously beneficial. "We have simulated an early construction flight and conducted proximity and docking operations," he said.

Goldin added that the agreement enables the Russians to use the space shuttle to help them with a significant logistics shortfall. Goldin said NASA would study the extension of the Phase 1 program into 1999. Russia will meets its commitments, deliver the Functional Cargo Block for a November 1997 launch, and deliver the Service Module in 1998.

The details of these arrangements, including the technical and financial aspects, will be worked out in

Please see **SHUTTLE**, Page 4

Columbia rolls to pad

Crew rehearses for late February launch

By James Hartsfield

Columbia was rolled out to Kennedy Space Center's Launch Pad 39B Monday, on track for a launch as early as Feb. 22.

STS-75 Commander Andy Allen; Pilot Scott Horowitz; Mission Specialists Jeff Hoffman, Maurizio Cheli, Claude Nicollier and Franklin Chang-Diaz; and Payload Specialist Umberto Guidoni are at KSC today finishing up a countdown dress rehearsal. STS-75 will carry the Tethered Satellite System-1 Reflight and the United States Microgravity Payload-3 for a 14-day mission.

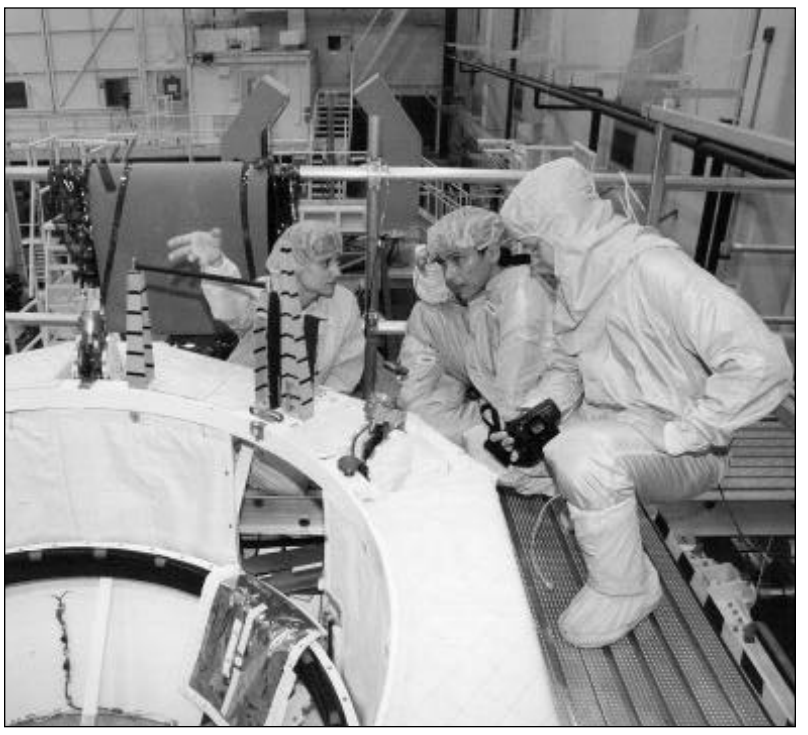
Work at the pad this week included a successful test run of the shuttle's three auxiliary power units, replacement of a high pressure fuel turbopump in one of *Columbia*'s main engines, and the installation of the TSS-1R and USMP payloads.

Shuttle managers plan to meet next Friday for a final review of mission preparations, following which a firm launch date will be announced.

In the Bay 1 shuttle processing hangar, *Atlantis* is being readied for STS-76, the third Mir docking mission planned for a mid-March launch.

This week, leak checks were performed on the orbiter docking system in *Atlantis*' cargo bay and the shuttle's inertial measurement units were tested. Members of the STS-76 crew will be at KSC on Thursday for an inspection of the orbiter's cargo bay during the crew equipment interface test.

Meanwhile, *Endeavour*, in the Bay 3 hangar at KSC since its January flight on STS-72, continues to undergo post-flight servicing.



NASA Photo

STS-75 Payload Commander Franklin Chang-Diaz, center, inspects the satellite retention element of the Tethered Satellite System in the Operation and Checkout Bldg. at Kennedy Space Center with JSC extravehicular activity specialists Cindy Thomas and Mike Hess.

JSC's Black History Month honors airmen

The Equal Opportunity Programs Office and the 1996 Black History Committee will present the JSC's Black History Month observance from 11 a.m. -1 p.m. Feb. 12 at the Gilruth Center Ballroom.

The keynote speaker will be Herbert Carter, retired Air Force lieutenant colonel. Carter is a member of the Tuskegee Airmen, the original cadre of the 99th Fighter Squadron in World War II. During his military career, Carter flew 77 operational missions in five different types of fighter aircraft. His military decorations include the Air Medal with four clusters, Air Force Commendation Medal, Distinguished Unit Citation, European Theater Medal with five Bronze stars, National Defense Medal and the Air Force Longevity Medal. Today, Carter is president of the Tuskegee Alabama Chapter, Tuskegee Airmen Inc.

Please see **TUSKEGEE**, Page 4